

Appl. No.: 10/627,166
Amdt. dated 05/30/06
Reply to Office Action of November 29, 2005

Amendments to the Claims:

1. (currently amended) A cementitious composition for mixing with an effective amount of water to form a structural product, the composition comprising:
an effective amount of bottom ash, said bottom ash comprising a fine portion and a coarse portion, said coarse portion comprising a particle size between .75 inches to .003 inches and said fine portion comprising a particle size of less than .006 inches; and
an effective amount of Portland cement; and
wherein said bottom ash and said cement are in a ratio between 2:1 and 2:3 by weight.
2. (canceled)
3. (original) A composition according to Claim 1 wherein the structural product formed from mixing the composition with the effective amount of water has at least one of a seven-day compressive strength of at least about 4,000 psi and a twenty-eight-day compressive strength of at least about 5,000 psi.
4. (original) A composition according to Claim 1 wherein the structural product formed from mixing the composition with the effective amount of water has at least one of a seven-day compressive strength of at least about 5,000 psi and a twenty-eight-day compressive strength of at least about 6,000 psi.
5. (original) A composition according to Claim 1 wherein the composition has a per unit volume weight of less than about 100 pounds per cubic foot of volume.
6. (canceled)
7. (canceled).

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8. (original) A composition according to Claim 1 wherein approximately fifty percent of said bottom ash has a particle size less than about .012 inches.

9. (currently amended) A cementitious composition for mixing with an effective amount of water to form a structural product, the composition comprising:
an effective amount of bottom ash, said bottom ash comprising a fine portion and a coarse portion, said coarse portion comprising a particle size between .75 inches to .003 inches and said fine portion comprising a particle size of less than .006 inches and having particle size less than about .75 inches;

an effective amount of Portland cement; and
wherein the composition has bottom ash and cement in a ratio of between about 2:1 and about 2:3 by weight, has a per unit volume weight of less than about 100 pounds per cubic foot of volume and wherein the structural product formed from mixing the composition with the effective amount of water has a seven-day compressive strength of at least about 2,500 psi.

10. (original) A composition according to Claim 9 wherein the composition has a per unit volume weight of less than about 90 pounds per cubic foot of volume.

11. (original) A composition according to Claim 9 wherein the structural product formed from mixing the composition with the effective amount of water has a seven-day compressive strength of at least about 4,000 psi.

12. (original) A composition according to Claim 9 wherein the structural product formed from mixing the composition with the effective amount of water has a seven-day compressive strength of at least about 5,000 psi.

13. (original) A composition according to Claim 9 wherein the structural product formed from mixing the composition with the effective amount of water has a twenty-eight-day compressive strength of at least about 5,000 psi.

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14. (original) A composition according to Claim 9 wherein the structural product formed from mixing the composition with the effective amount of water has a twenty-eight-day compressive strength of at least about 6,000 psi.

15. (canceled)

16. (canceled)

17. (original) A composition according to Claim 9 wherein approximately fifty percent of said bottom ash has a particle size less than about .012 inches.

18. (original) A high strength cementitious composition for mixing with an effective amount of water to form a structural product, the composition comprising:
an effective amount of bottom ash, said bottom ash comprising a fine portion and a coarse portion, said coarse portion comprising a particle size between .75 inches to .003 inches and said fine portion comprising a particle size of less than .006 inches; and
an effective amount of Portland cement; and
wherein the composition has bottom ash and cement in a ratio of between about 2:1 and about 2:3 by weight.

19. (canceled)

20. (original) A composition according to Claim 18 wherein the structural product formed from mixing the composition with the effective amount of water has at least one of a seven-day compressive strength of at least about 4,000 psi and a twenty-eight-day compressive strength of at least about 5,000 psi.

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21. (original) A composition according to Claim 18 wherein the structural product formed from mixing the composition with the effective amount of water has at least one of a seven-day compressive strength of at least about 5,000 psi and a twenty-eight-day compressive strength of at least about 6,000 psi.

22. (original) A composition according to Claim 18 wherein the composition has a per unit volume weight of less than about 100 pounds per cubic foot of volume.

23. (canceled)

24. (canceled)

25. (original) A composition according to Claim 18 wherein approximately fifty percent of said bottom ash has a particle size less than about .012 inches.

26. (currently amended) A cementitious product for mixing with an effective amount of water to form a structural product, comprising:

a container having a volume;

a cementitious composition substantially filling the volume of said container, said composition comprising:

an effective amount of bottom ash, said bottom ash comprising a fine portion and a coarse portion, said coarse portion comprising a particle size between .75 inches to .003 inches and said fine portion comprising a particle size of less than .006 inches and having a particle size less than about .75 inches;

an effective amount of Portland cement; and

wherein said composition has bottom ash and cement in a ratio of between about 2:1 and about 2:3 by weight, and wherein said container and said composition together weigh less than approximately 100 pounds per cubic foot of volume.

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27. (original) A product according to Claim 26 wherein said container and said composition weigh less than approximately 90 pounds per cubic foot of volume.

28. (canceled)

29. (original) A product according to Claim 26 wherein the structural product formed from mixing said cementitious composition of the product with the effective amount of water has at least one of a seven-day compressive strength of at least about 4,000 psi and a twenty-eight-day compressive strength of at least about 5,000 psi.

30. (canceled)

31. (canceled)

32. (original) A product according to Claim 26 wherein approximately fifty percent of said bottom ash has a particle size less than about .012 inches.

33. (original) A product according to Claim 26 wherein said container is selected from the group consisting of a paper bag, a plastic bag, and a plastic bucket having a lid.

34. (currently amended) A method of manufacturing a cementitious product for use in forming a structural product, comprising:

mixing an effective amount of bottom ash and an effective amount of Portland cement in a ratio of bottom ash to cement of between about 2:1 and about 2:3 by weight, wherein the bottom ash comprises a fine portion and a coarse portion, the coarse portion comprising a particle size between .75 inches to .003 inches and the fine portion comprising a particle size of less than .006 inches ~~and has a particle size below about .75 inches~~, to thereby provide a cementitious composition; and

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packaging the composition in a container wherein the container and the composition together weigh less than approximately 100 pounds per cubic foot of volume.

35. (canceled)

36. (original) A method according to Claim 34 wherein said mixing step comprises removing particles from the bottom ash having a particle size exceeding about .75 inches.

37. (currently amended) A method according to Claim 34 wherein the fine and coarse portions are substantially equally weighted, ~~the coarse portion of bottom ash comprising particles having particle sizes ranging from between about .75 inches to about .003 inches, and the fine portion of bottom ash comprising particles having particle sizes less than about .006 inches.~~

38. (canceled)

39. (original) A method according to Claim 34 wherein said packaging step comprises packaging the composition in a container wherein the container and the composition together weigh less than approximately 90 pounds per cubic foot of volume.

40. (original) A method according to Claim 34, wherein said packaging step comprises packaging the composition in a container wherein the container is selected from the group consisting of a paper bag, a plastic bag, and a plastic bucket having a lid.

41. (currently amended) A method of making a structural product, comprising:
providing a cementitious composition comprising an effective amount of bottom ash and an effective amount of Portland cement in a ratio of bottom ash to cement of between about 2:1 and about 2:3 by weight, wherein the bottom ash comprises a fine portion and a coarse portion, the coarse portion comprising a particle size between .75 inches to .003 inches and the fine

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portion comprising a particle size of less than .006 inches and has a particle size below about .75 inches;

mixing an effective amount of water with the cementitious composition; and
subsequent to said mixing step, curing the cementitious composition to thereby form a structural product having at least one of a seven-day compressive strength of at least about 2,500 psi and a twenty-eight-day compressive strength of at least about 4,000 psi.

42. (original) A method according to Claim 41 wherein said curing step comprises curing the cementitious composition to thereby form a structural product having at least one of a seven-day compressive strength of at least about 4,000 psi and a twenty-eight-day compressive strength of at least about 5,000 psi.

43. (original) A method according to Claim 41 wherein said curing step comprises curing the cementitious composition to thereby form a structural product having at least one of a seven-day compressive strength of at least about 5,000 psi and a twenty-eight-day compressive strength of at least about 6,000 psi.

44. (previously presented) A composition according to Claim 1 wherein the structural product formed from mixing the composition with the effective amount of water has at least one of a seven-day compressive strength of at least about 2,500 psi and a twenty-eight-day compressive strength of at least about 4,000 psi.

45. (previously presented) A composition according to Claim 18 wherein the structural product formed from mixing the composition with the effective amount of water has at least one of a seven-day compressive strength of at least about 2,500 psi and a twenty-eight-day compressive strength of at least about 4,000 psi.

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46. (previously presented) A product according to Claim 26 wherein the structural product formed from mixing said cementitious composition of the product with the effective amount of water has at least one of a seven-day compressive strength of at least about 2,500 psi and a twenty-eight-day compressive strength of at least about 4,000 psi.